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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/522,044
Filing Date: January 19, 2005
Appellant(s): DROTT ET AL.

Christopher A. Rothe
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/15/07 appealing from the Office action mailed 8/22/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,602,791

Zollner

7-1986

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 15-20 and 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Zollner (US Patent No. 4,602,791).

Regarding claim 15, the Zollner reference, as best understood, discloses a cylinder-and-piston unit (Col. 1, Lines 5-15) comprising a cylinder (e.g. including 5, D, and upper element 21 in contact with 22), a piston (6) and a sealing collar (22), the cylinder comprising a bore (e.g. bore of cylinder accommodating piston 6), and the cylinder having a wall surface (e.g. inner most surface of cylinder) along the bore, the wall surface comprising a first sidewall (V) extending parallel to a longitudinal axis of the bore (Fig. 2), a second sidewall (W) contiguous with the first sidewall and extending generally perpendicularly to the first sidewall (Fig. 2), a third sidewall (X) contiguous with the second sidewall and extending generally parallel to the first sidewall (Fig. 2), a fourth sidewall (Y) contiguous with the third sidewall and extending generally parallel to the second sidewall (Fig. 2), and a fifth sidewall (Z) contiguous with the fourth sidewall and extending generally parallel to the first sidewall along the bore (Fig. 2), the second, third and fourth sidewalls being parts of one unitary body, forming a groove (e.g. groove formed by walls W, X and Y) that is recessed in the wall surface (Fig. 2), the sealing collar being positioned in the groove (Fig. 2) and comprising an outside sealing lip (B) and an inside sealing lip (A), the outside and inside sealing lips each having a free end

(i.e. the ends facing downwards in Fig. 2), the sealing collar further including a circumferential extension (C) that extends in parallel to the sealing lips (Fig. 2), being arranged radially between the outside sealing lip and the inside sealing lip and projects axially beyond the free ends of the outside and inside sealing lips (Fig. 2), the circumferential extension being configured to contact the second sidewall in the groove (Fig. 2) and maintain the free ends of the outside and inside sealing lips out of contact with the second sidewall (Fig. 2).

Regarding claim 16, the Zollner reference, as best understood, discloses a cylinder-and-piston unit (Col. 1, Lines 5-15) comprising a cylinder (e.g. including 5, D, and upper element 21 in contact with 22), a piston (6) and a sealing collar (22), the cylinder comprising a bore (e.g. bore of cylinder accommodating piston 6), and the cylinder having a wall surface (e.g. inner most surface of cylinder) along the bore, the wall surface comprising a first sidewall (V) extending parallel to a longitudinal axis of the bore (Fig. 2), a second sidewall (W) contiguous with the first sidewall and extending generally perpendicularly to the first sidewall (Fig. 2), a third sidewall (X) contiguous with the second sidewall and extending generally parallel to the first sidewall (Fig. 2), a fourth sidewall (Y) contiguous with the third sidewall and extending generally parallel to the second sidewall (Fig. 2), and a fifth sidewall (Z) contiguous with the fourth sidewall and extending generally parallel to the first sidewall along the bore (Fig. 2), the second, third and fourth sidewalls being parts of one unitary body and forming a groove (e.g. groove formed by walls W, X and Z) that is recessed in the wall surface (Fig. 2), the sealing collar being positioned in the groove (Fig. 2) and comprising a first sealing lip

(A) and a second sealing lip (B), the first sealing lip being acted upon dynamically and making contact with the piston (Fig. 2) and the second sealing lip thereof being acted upon statically while resting on a bottom of the groove (Fig. 2), the first and second sealing lips each having a free end (i.e. the ends facing downwards in Fig. 2), the sealing collar further including a circumferential extension (C) that extends between the first and second sealing lips (Fig. 2), and projects from the first and second sealing lips in an axial direction beyond the free ends of the first and second sealing lips (Fig. 2), the sealing collar having a rear surface (e.g. surface of element 22 in contact with element D) opposite the free ends of the first and second sealing lips, wherein the sealing collar has a maximum radial width at the free end of the second sealing lip and a minimum radial width at the rear surface (Fig. 2). Note that the radial width at the rear surface will always be smaller than the maximum width because of supporting ring 1.

Regarding claim 17, the Zollner reference discloses the axial width of the groove being larger than the axial width of the sealing collar (Fig. 2). Note that the axial width of the groove of the Zollner reference is larger than the axial width of the sealing collar at different cross sections.

Regarding claim 18, the Zollner reference discloses the second sealing lip (B). Note that the second lip of the Zollner reference is capable of being passed over by pressure fluid flow and hence provide the effect of a valve, because the structure as claimed in claim 16 is the same as the structure of the Zollner reference.

Regarding claim 19, the Zollner reference discloses the strength of the extension as a difference between its inside and outside diameters has at least the same rate as

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the strength of each of the sealing lips. Note that the seal of the Zollner reference is made of one material and since the extension has a thicker diameter, it will have a strength that is equal, if not greater, than the strength of the lips.

Regarding claim 20, the Zollner reference discloses the extension being provided with radial apertures (F). Note that the apertures are capable of allowing pressure fluid to pass through in a radial direction.

Regarding claim 22, the Zollner reference discloses the apertures being open in an axial direction towards the free end of the extension (Fig. 2).

Regarding claim 23, the Zollner reference discloses the extension being integrally connected to the sealing collar and being made of the same material (Fig. 2).

Regarding claim 24, the Zollner reference discloses a cylinder-and-piston unit (Col. 1, Lines 5-15) comprising a cylinder (e.g. including 5, D, and upper element 21 in contact with 22), a piston (6) and a sealing collar (22), the cylinder comprising a bore (e.g. bore of cylinder accommodating piston 6), and the cylinder having a wall surface (e.g. inner most surface of cylinder) along the bore, the wall surface comprising a first sidewall (V) extending parallel to a longitudinal axis of the bore (Fig. 2), a second sidewall (W) contiguous with the first sidewall and extending generally perpendicularly to the first sidewall (Fig. 2), a third sidewall (X) contiguous with the second sidewall and extending generally parallel to the first sidewall (Fig. 2), a fourth sidewall (Y) contiguous with the third sidewall and extending generally parallel to the second sidewall (Fig. 2), and a fifth sidewall (Z) contiguous with the fourth sidewall and extending generally parallel to the first sidewall along the bore (Fig. 2), the second, third and fourth sidewalls

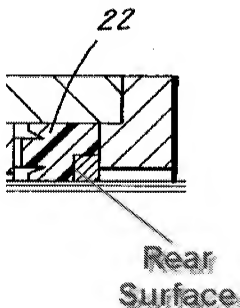
being parts of one unitary body and bordering a groove that is recessed in the wall surface (Fig. 2), the sealing collar being positioned in the groove and comprising an outside sealing lip (B) and an inside sealing lip (A), the outside and inside sealing lips each having a free end (i.e. the ends facing downwards in Fig. 2), the sealing collar further including a circumferential extension (C) that extends in parallel to the sealing lips (Fig. 2), is arranged radially between the outside sealing lip and the inside sealing lip and has a free end that projects axially beyond the free ends of the outside and inside sealing lips (Fig. 2), the circumferential extension engaging the second sidewall of the groove (Fig. 2) and maintaining the free ends of the outside and inside sealing lips out of contact with the second sidewall (Fig. 2).

Regarding claim 25, the Zollner reference discloses the free end of the circumferential extension being provided with radial apertures (F). Note that the apertures are capable of allowing pressure fluid to pass through in a radial direction.

Regarding claim 26, the Zollner reference discloses the sealing collar having a rear surface (e.g. surface of element 22 in contact with element 1 that is parallel to the surface of element C in contact with element 21) opposite the free ends of the outside and inside sealing lips, wherein the sealing collar has a maximum outside diameter at the free end of the outside sealing lip and a minimum outside diameter at the rear surface (Fig. 2). Note the minimum outside diameter is the same width as the supporting ring 1 and will always be smaller than the maximum diameter at the outside seal.

(10) Response to Argument

For clarity, the rear surface required by the claims has been labeled in the Zollner reference as shown below:



- A. CLAIM 15 IS NOT ANTICIPATED BY ZOLLNER UNDER 35 U.S.C. § 102 BECAUSE ZOLLNER FAILS TO TEACH EACH AND EVERY ELEMENT OF CLAIM 15.**

Appellant argues that Zollner does not teach a cylinder-and-piston unit having a wall surface with sidewalls that form a recessed groove. The appellant further argues that surfaces V, W, Y, and Z are not on the cylinder.

The examiner has clearly stated that the cylinder of the Zollner reference is being interpreted as including 5, D, and upper element 21 in contact with 22.

The Appellant further argues that the surfaces W, X, and Y are not "contiguous" as claimed because there is a clearance space that separates holding ring (21) from cylinder (5), and Y and Z are divided by a clearance space that separates cylinder (5) from holding element (16).

It is unclear to the examiner as to where in the Zollner reference these "clearance spaces" are shown or described. Fig. 2 of the Zollner reference only discloses spaces between 16 and 6; 5 and 6; and 21 and 6, but never discloses spaces between 21 and 5; nor 5 and 16. Since no "clearance gap" exists between 21 and 5 or 5 and 16, the walls W, X, and Y are considered to be contiguous.

The Appellant further argues that surfaces W, X, and Y are not "parts of one unitary body", but are parts of three independently moving components.

It seems that the Appellant is interpreting "unitary body" to mean a "solid piece" or a "piece made of a single member"; however, elements 5, D, and upper element 21 in contact with 22 together make one unit and are therefore considered to constitute a "unitary body". The Appellant is interpreting upper elements 21, 5 and 16 as independently moving components. This is not described or shown in the disclosure of the Zollner reference. On the contrary, Col. 3, Lines 59-63 state that holding element 16 is fixed to sleeve 5. Since a spring, such as 17, does not exist on the side of seal 22, upper element 21, 22, and 16 are not considered to be independently moving with respect to each other nor with respect to sleeve 5.

The Appellant further argues that an annular space between holding ring (21) and holding element (16) in Zollner is not a "groove" recessed in the wall surface.

As stated above, the cylinder is being considered as including elements 5, D, and upper element 21 in contact with 22. Therefore the annular space between holding ring (21) and holding element (16) in Zollner is considered to be a "groove" recessed in the wall surface. Furthermore, the "wall surface" as stated in the previous office action is being considered as the inner most surface of the cylinder. Since the cylinder is being considered as including elements 5, D, and upper element 21 in contact with 22, the annular space is a "groove" or that is "recessed" in the wall surface of the cylinder.

**B. CLAIMS 16-23 ARE NOT ANTICIPATED BY ZOLLNER UNDER 35
U.S.C. §102 BECAUSE ZOLLNER FAILS TO TEACH EACH AND
EVERY ELEMENT OF CLAIM 16.**

Appellant argues that Zollner does not teach a cylinder-and-piston unit having a wall surface with sidewalls that form a recessed groove. The appellant further argues that surfaces V, W, Y, and Z are not on the cylinder.

The examiner has clearly stated that the cylinder of the Zollner reference is being interpreted as including 5, D, and upper element 21 in contact with 22.

The Appellant further argues that the surfaces W, X, and Y are not "contiguous" as claimed because there is a clearance space that separates holding ring (21) from cylinder (5), and Y and Z are divided by a clearance space that separates cylinder (5) from holding element (16).

It is unclear to the examiner as to where in the Zollner reference these "clearance spaces" are shown or described. Fig. 2 of the Zollner reference only discloses spaces

between 16 and 6; 5 and 6; and 21 and 6, but never discloses spaces between 21 and 5; nor 5 and 16. Since no "clearance gap" exists between 21 and 5 or 5 and 16, the walls W, X, and Y are considered to be contiguous.

The Appellant further argues that surfaces W, X, and Y are not "parts of one unitary body", but are parts of three independently moving components.

It seems that the Appellant is interpreting "unitary body" to mean a "solid piece" or a "piece made of a single member"; however, elements 5, D, and upper element 21 in contact with 22 together make one unit and are therefore considered to constitute a "unitary body". The Appellant is interpreting upper elements 21, 5 and 16 as independently moving components. This is not described or shown in the disclosure of the Zollner reference. On the contrary, Col. 3, Lines 59-63 state that holding element 16 is fixed to sleeve 5. Since a spring, such as 17, does not exist on the side of seal 22, upper element 21, 22, and 16 are not considered to be independently moving with respect to each other nor with respect to sleeve 5.

The Appellant further argues that an annular space between holding ring (21) and holding element (16) in Zollner is not a "groove" recessed in the wall surface.

As stated above, the cylinder is being considered as including elements 5, D, and upper element 21 in contact with 22. Therefore the annular space between holding ring (21) and holding element (16) in Zollner is considered to be a "groove" recessed in the wall surface. Furthermore, the "wall surface" as stated in the previous office action is being considered as the inner most surface of the cylinder. Since the cylinder is being

considered as including elements 5, D, and upper element 21 in contact with 22, the annular space is a "groove" or that is "recessed" in the wall surface of the cylinder.

The Appellant further argues that claims 17-23 are not anticipated by Zollner under 35 U.S.C. §102 because claim 16 is not anticipated by Zollner.

The rejection of claim 16 stands as discussed above. Therefore claims 17-23 stand rejected.

C. CLAIMS 24 AND 25 ARE NOT ANTICIPATED BY ZOLLNER UNDER 35 U.S.C. § 102 BECAUSE ZOLLNER FAILS TO TEACH EACH AND EVERY ELEMENT OF CLAIM 24.

Appellant argues that Zollner does not teach a cylinder-and-piston unit having a wall surface with sidewalls that form a recessed groove. The appellant further argues that surfaces V, W, Y, and Z are not on the cylinder.

The examiner has clearly stated that the cylinder of the Zollner reference is being interpreted as including 5, D, and upper element 21 in contact with 22.

The Appellant further argues that the surfaces W, X, and Y are not "contiguous" as claimed because there is a clearance space that separates holding ring (21) from cylinder (5), and Y and Z are divided by a clearance space that separates cylinder (5) from holding element (16).

It is unclear to the examiner as to where in the Zollner reference these "clearance spaces" are shown or described. Fig. 2 of the Zollner reference only discloses spaces between 16 and 6; 5 and 6; and 21 and 6, but never discloses spaces between 21 and

5; nor 5 and 16. Since no "clearance gap" exists between 21 and 5 or 5 and 16, the walls W, X, and Y are considered to be contiguous.

The Appellant further argues that surfaces W, X, and Y are not "parts of one unitary body", but are parts of three independently moving components.

It seems that the Appellant is interpreting "unitary body" to mean a "solid piece" or a "piece made of a single member"; however, elements 5, D, and upper element 21 in contact with 22 together make one unit and are therefore considered to constitute a "unitary body". The Appellant is interpreting upper elements 21, 5 and 16 as independently moving components. This is not described or shown in the disclosure of the Zollner reference. On the contrary, Col. 3, Lines 59-63 state that holding element 16 is fixed to sleeve 5. Since a spring, such as 17, does not exist on the side of seal 22, upper element 21, 22, and 16 are not considered to be independently moving with respect to each other nor with respect to sleeve 5.

The Appellant further argues that an annular space between holding ring (21) and holding element (16) in Zollner is not a "groove" recessed in the wall surface.

As stated above, the cylinder is being considered as including elements 5, D, and upper element 21 in contact with 22. Therefore the annular space between holding ring (21) and holding element (16) in Zollner is considered to be a "groove" recessed in the wall surface. Furthermore, the "wall surface" as stated in the previous office action is being considered as the inner most surface of the cylinder. Since the cylinder is being considered as including elements 5, D, and upper element 21 in contact with 22, the annular space is a "groove" or that is "recessed" in the wall surface of the cylinder.

The Appellant further argues that claim 25 is not anticipated by Zollner under 35 U.S.C. §102 because claim 24 is not anticipated by Zollner.

The rejection of claim 24 stands as discussed above. Therefore claim 25 stands rejected.

**D. CLAIM 26 IS NOT ANTICIPATED BY ZOLLNER UNDER 35 U.S.C. §102
BECAUSE ZOLLNER FAILS TO TEACH EACH AND EVERY ELEMENT
OF CLAIM 26.**

The Appellant argues that Zollner does not disclose a sealing collar having a maximum outside diameter at the free end of the outside lip and a minimum outside diameter at the rear surface. The Appellant further argues that the outside diameter at the outside lip is equal to the outside diameter at the rear surface.

The claim only requires "a rear surface opposite the free ends of the outside and inside sealing lips". As shown above, the Zollner reference has two rear surfaces. The "rear surface", as interpreted by the examiner, has a width/diameter equal to that of element 1. Clearly this dimension is smaller than the outside diameter at the outside sealing lip.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Gilbert Lee

/Patricia L Engle/

Supervisory Patent Examiner, Art Unit 3673

Conferees:

Patricia Engle /ple/

Meredith Petravick /mcp/